



When one valve isn't good enough

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- 73 year old Maltese female
- Symptomatic severe aortic stenosis
- Worsening dyspnoea on mild exertion
- Hypertensive, on thiazide diuretic
- TTE:
 - Heavily calcified aortic valve
 - Aortic valve area 0.5cm^2
 - Maximum velocity 550cm/second
 - Mean pressure gradient 68mmHg
 - Normal left ventricular systolic function
- Normal coronaries on angiogram
- Patient refused surgical AVR and accepted TAVI

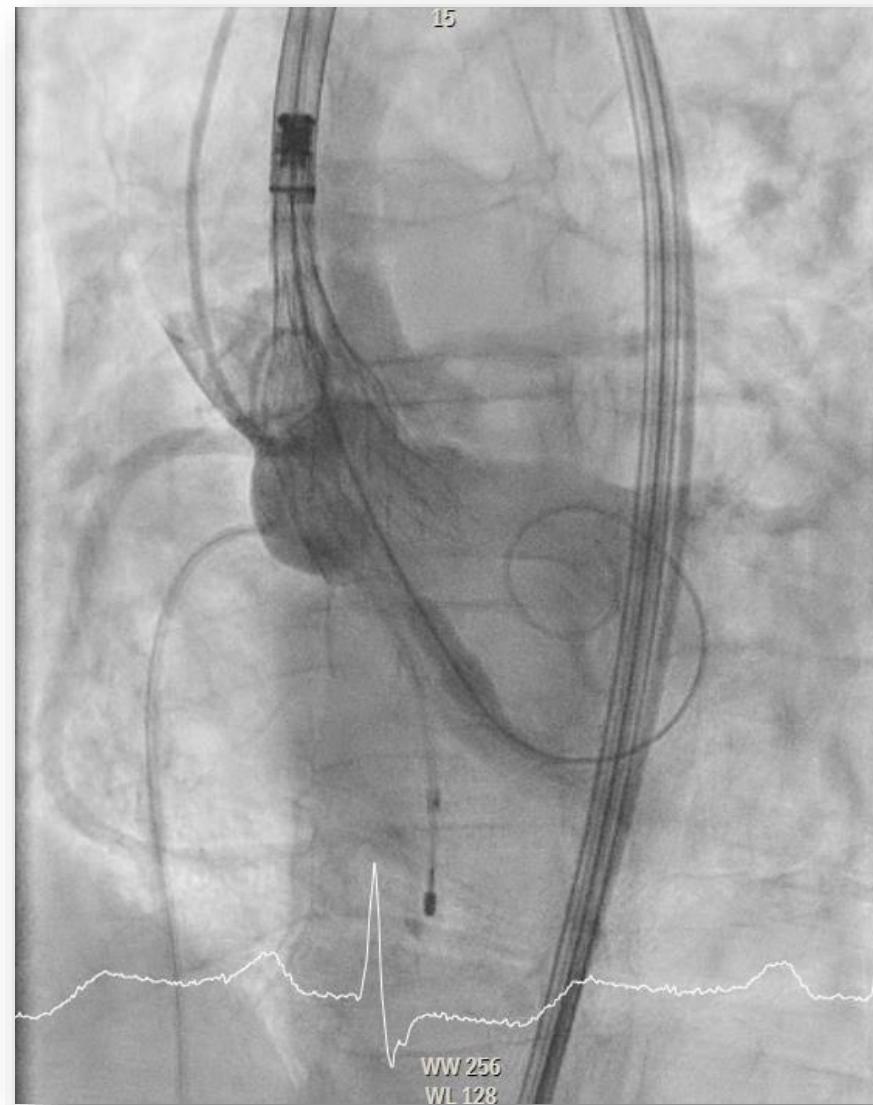
- Bicuspid aortic valve (Sievers classification type 1 R-L)
- Severe calcification of leaflets and annulus
- Calcified plaque near ostium of left main stem
- Height LCA ostium 10.4mm
- Height RCA ostium 15.7mm



TAVI procedure: Prior to deployment

Transfemoral TAVI
under deep
sedation

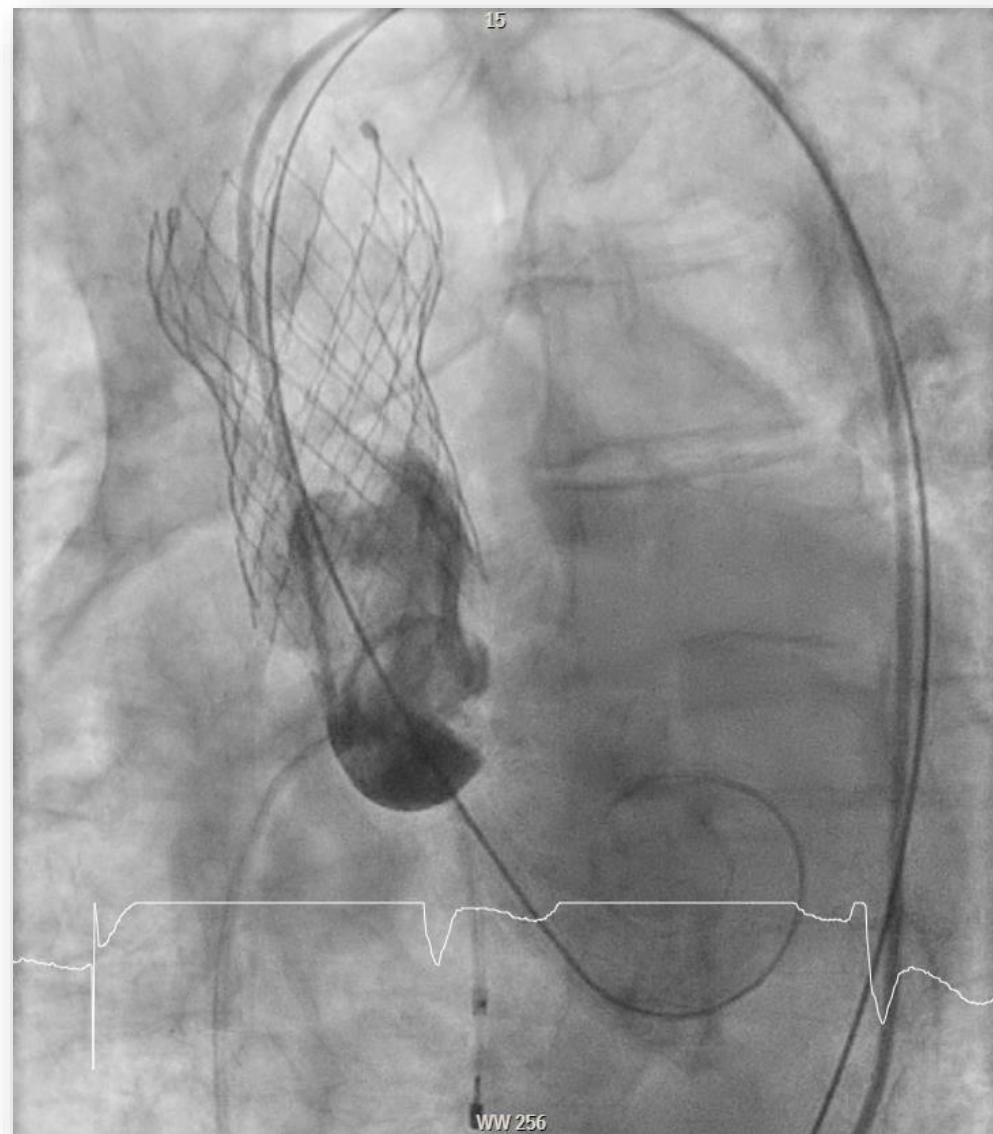
26mm CoreValve
Evolut R device
position prior to
deployment

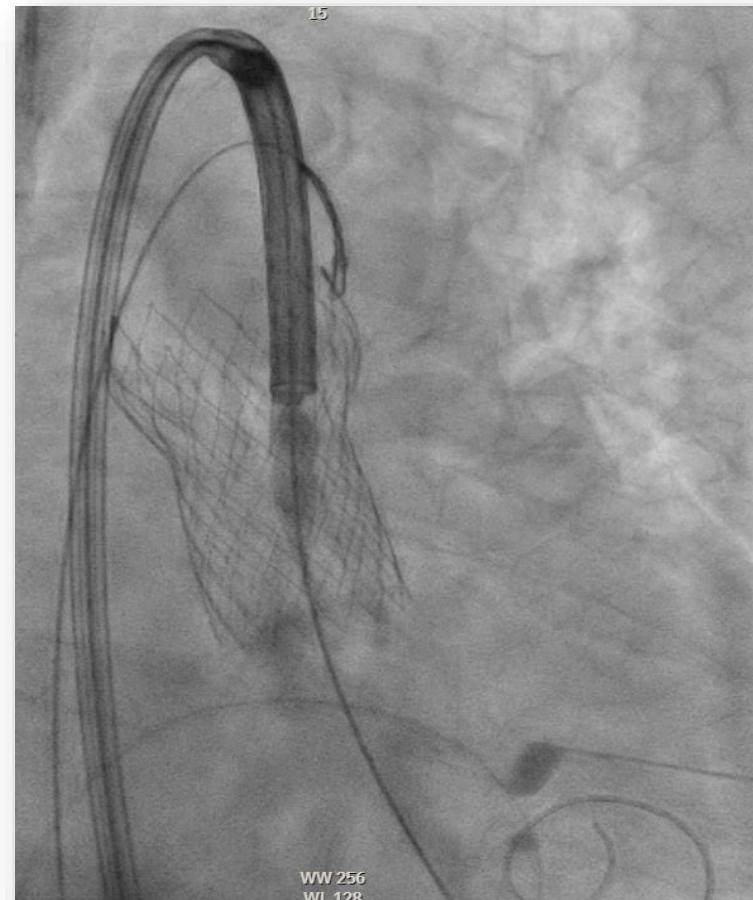
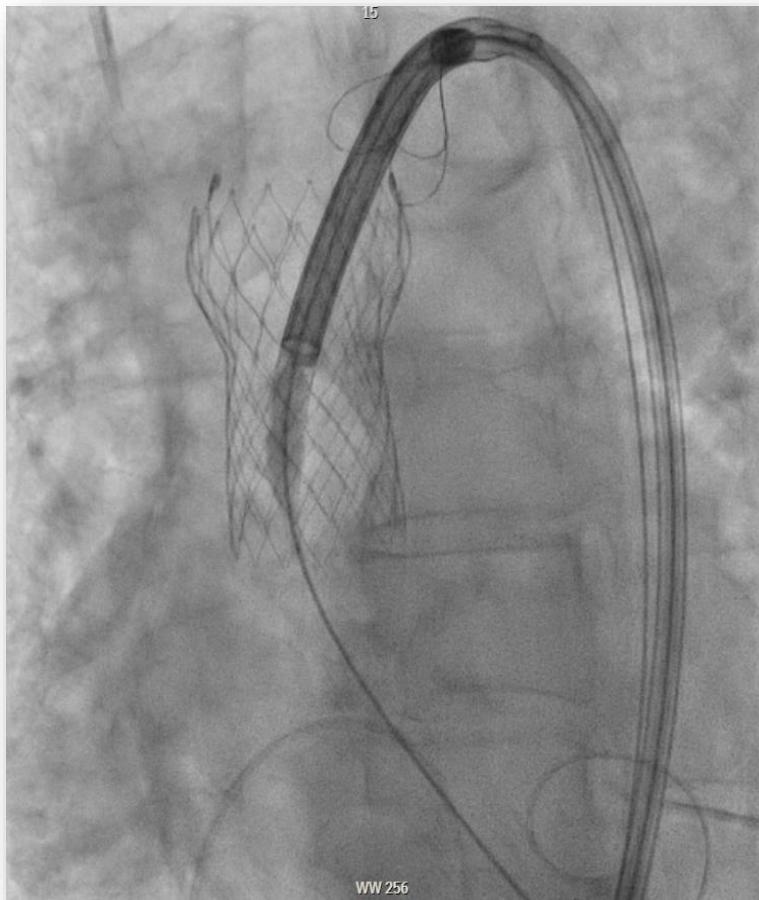


TAVI procedure: Post deployment

TAVI device popped up into ascending aorta immediately after deployment

Severe aortic regurgitation noted





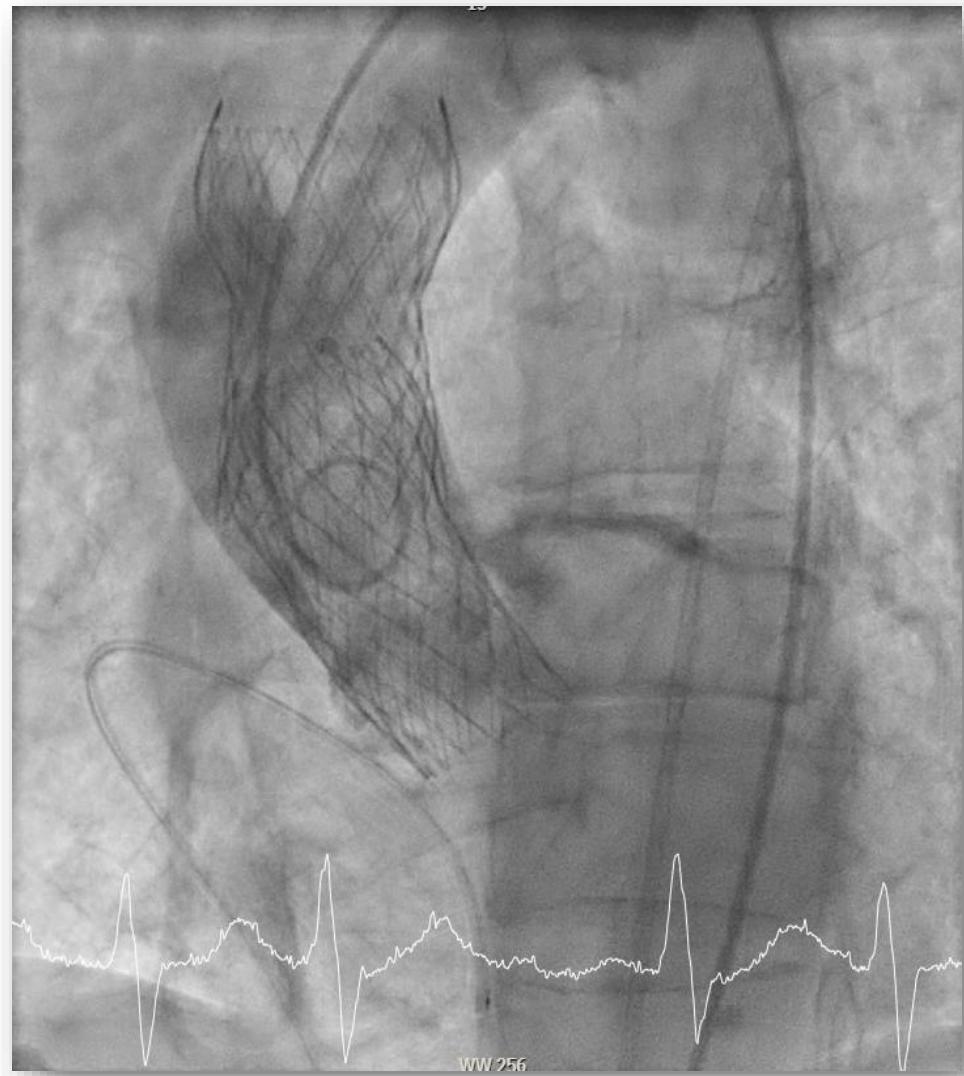
Device was snared and pulled up to avoid blocking the coronary ostia

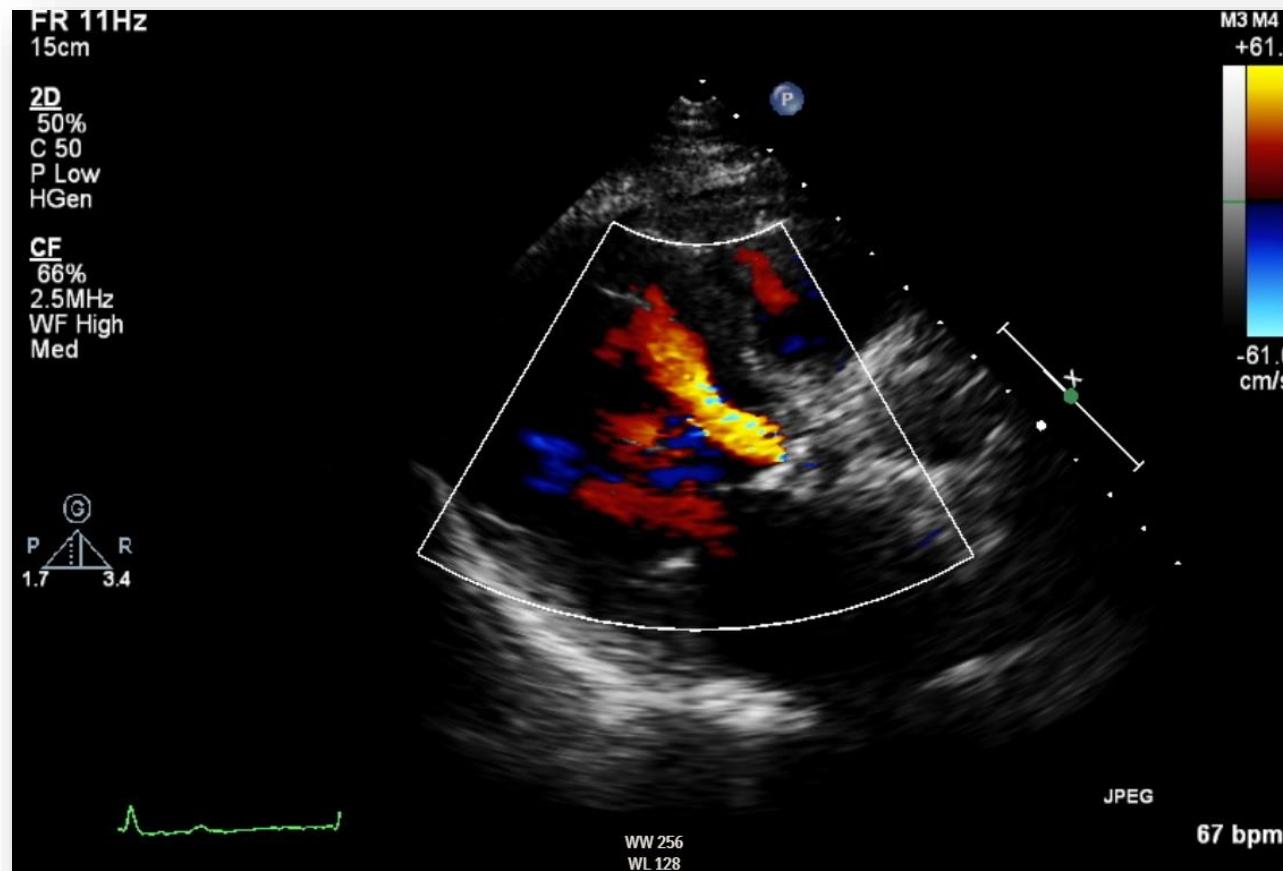
Deployment of second TAVI device

Second device deployed inside the first device, in slightly lower position than the first device

Postdilation with 18mm, followed by 20mm balloon

Slight residual paravalvular leak





TAVI devices in situ
Moderate paravalvular leak

- Discharged home 2 days post-TAVI
- Doing well
- Symptom free

- Challenges of a heavily calcified bicuspid aortic valve
- Increased risk of TAVI device popping out – aim for a lower position
- Consider predilatation to allow better TAVI expansion and annulus apposition
- Technical challenges faced with placing a second valve through the first
- Higher risk of coronary obstruction and paravalvular leak